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PATENT COOPERATION TREATY

TRANSLATION

PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference

MFR0201PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/FR2005/000434

International filing date (day/month/year)

24.02.2005

Priority date (day/month/year)

27.02.2004

International Patent Classification (IPC) or both national classification and IPC

H02K9/06

Applicant

VALEO EQUIPEMENTS ELECTRIQUES MOTEUR

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Reference is made to the following documents:

D1: US 5 793 143

D2: EP 1 122 864

D3: EP 0 779 697

D3: EP 1 443 627

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	5-7	YES
	Claims	1-4, 8-18	NO
Inventive step (IS)	Claims	5	YES
	Claims	1-4, 6-18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

2. Citations and explanations:

V.1 The present application does not meet the requirements set forth in PCT Article 33(1) in that the subject matter of claims 1-4 and 8-18 does not satisfy the criterion of novelty defined by PCT Article 33(2).

V.1.1 Document D1 discloses, in figure 1, a rotor for an alternator comprising two magnet wheels with claws (12, 14) separated by an axial space and disposed opposite one another, each wheel (12, 14) comprising a flange (32, see figure 2B) perpendicular to the axis of rotation and claws (20, 22) extending axially from the flange (32) toward the other wheel (12, 14), the flange (14) of one of the magnet wheels comprising an axial face facing the other wheel (12), while the claws (22) of the same wheel are joined to the flange by respective bases, mutually separated by peripheral spaces (see figures 1, 4), the assembly comprising a fan (24, 28) attached to the axial face of the flange (32) of each wheel (12, 14) that faces the other wheel by a ring-shaped plate (large diameter fan disk 24, 28) bearing blades (40). Part of this fan (36, 38, see figure 4 as well as the disk of fan 24, 28) axially seals the peripheral spaces.

The claws (20, 22) have radially external faces that

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define the diameter of the rotor assembly, the solid part (fan disk 24, 28) having an external diameter that is slightly larger than the diameter of the rotor assembly (see figures 5, 10).

A motor vehicle alternator comprising such a rotor assembly is also disclosed.

The subject matter of claims 1, 2, 8, 9 and 18 is therefore not novel with respect to the disclosure of D1.

V.1.2 Document D2 discloses, in figure 6 in combination with figure 5, an alternator rotor of similar structure, particularly comprising a fan (14) attached to the flange of a magnet wheel, the disk of large diameter axially sealing the peripheral spaces between the bases of the claws. Moreover, the parts 20 are axially inclined (triangular shape) from the solid part of the plate on the side of the claws and forms a raised part axial to the "sealing part" that projects from the plate between the claws (see column 6, lines 37-42).

The subject matter of claims 1-4, 8-10 and 18 is therefore not novel with respect to the disclosure of D2.

V.1.3 Document D3 also discloses a rotor of similar structure. The fan formed by the folded plates 54 and 56 (see column 2, line 55) comprises parts 59 and 60, which form a plate that axially seals the peripheral spaces between the bases of the claws (46, 47). The sealing part 60 is axially inclined (its radial width decreasing in the axial direction) from the solid ring-shaped part and

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forms an axial raised part that extends from the plate between the claws. Moreover, it appears that the features of claims 9-18 are also known from D3 (see figure 3).

The subject matter of claims 1-4 and 8-18 is therefore not novel with respect to the disclosure of D3.

V.2. The features of claims 6 and 7 do not seem to produce a technical effect that would justify an inventive step with respect to the rotor assemblies of D1 or D2.

The subject matter of claims 6 and 7 therefore does not involve an inventive step (PCT Article 33(3)).

V.3 The features of claim 5 are neither known nor suggested in any of the available prior art documents and allow for a simple and effective attachment of the fan to the rotor while providing a reduced sound level (see page 2, lines 1-3).

The subject matter of claim 7 therefore involves an inventive step (PCT Article 33(3)).

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Box No. VI Certain documents cited

1. Certain published documents (Rule 43bis.1 and 70.10)

EP04075119

04.08.2004

16.01.2004

29.01.2003

This European application, published under the number EP1441627 (D4), may be considered prejudicial to the novelty of claims 1-4 and 6-18 of the present application (see D4, figures 2 and 4 and the corresponding description) in certain States during the regional phase.

2. Non-written disclosures (Rule 43bis.1 and 70.9)

Kind of non-written disclosure

Date of non-written disclosure
(day/month/year)

Date of written disclosure
referring to non-written disclosure
(day/month/year)

see form 210

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The technical meaning of the expression "at least **partially** comprising a fan" is unclear; a rotor assembly may or may not comprise a fan, but not "partially". Claim 1 is therefore unclear in the sense of PCT Article 6.